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Ref: 552-OD-186

1 May 1964

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Project 552
Progress Report, March 1964 & Design Review

Gentlemen:

Enclosed are three (3) copies of [redacted] Progress Report on Project 552 for the period March 1964 and three (3) copies of the Design Review.

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Very truly yours,

[redacted]

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President

ARB/de

Encl: (3) P.R. (4 pp)
(3) D.R. (2 pp)

Declass Review by NIMA/DOD

[redacted]

30 April 1964
OD-184
WWB:rf

#552 PROJECT REVIEW

ATTENDEES: Customer Representatives

STAT [redacted]

DATE: 3 April 1964

SUBJECT: Summary of Topics Discussed

1. Eyepiece mount questioned. Radial arm saw design stated, although articulated eyepiece joint use was not settled.

2. What about low power field lens? Stated that field lens on top of film may be manually adjusted. Discussed where lower field lens location had more severe space shortage than the top field lens with need of reducing scan distance X and Y, 2 3/4 inch to 3 1/4 inch, with associated electrical complexity. Optical distortion and poor resolution are problems to solve with field lens above film. Possible mechanical center to center distance, 4 1/4 inch in low power, although Y travel should be unimpaired.

3. Noticed ribbon pattern in enhancement of fiber cable in 387 Viewer. Perhaps scan diameter covers an integral number of multifiber widths, causing "reinforcement", or increased visibility of cable structure.

4. Controls: Stated set up -- joy stick in right hand with two (2) switches:

   a) R-B-L channel suppression

   b) High speed scan engagement

Layout of left hand group will have a lot to do with displacing of grip controls.

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5. Joy Stick on 552: What is fundamental problem of having joy stick on point transfer device (as apposed to their use on viewers 552A)? Customer will have to determine joy stick success here. Mock-up desired May 15, was discussed. Will hear from customer to decide if mockup and its limited purpose will be useful.

6. Check on 552A Encoder, (order modification to Navy Viewer). Statement of accuracy of viewer without special reworking of way straightness, screw lead, etc. What least count encoder would be practical with system as it is now designed? The above answers should be forwarded to Navy so they can decide to change encoders.

7. Laser marking sample to .001 given to P.L. They still desire to 5 micron diameter samples.

PROGRESS REPORT

For

VERSATILE, HIGH PRECISION STEREO

POINT TRANSFER DEVICE

Period Covered: March 1964

Dated: 29 April 1964

Job No.: 552

Document No.: OD-183

Approved For Release 2003/01/28 : CIA-RDP78B04747A002900040086-3

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PROGRESS REPORT
For
VERSATILE, HIGH PRECISION STEREO
POINT TRANSFER DEVICE

This report covers the progress and work performed on subject Point Transfer Device for the month of March 1964.

GENERAL

Engineering and design is 80% complete with the exception of certain work required on the high intensity light source vacuum film holddown and electronic control consoles and superstructure.

Manufactured parts are approximately 70% complete. Subassembly work was carried forward.

Close control and continuous monitoring of all components and assemblies are being enforced.

OBJECTIVE

Subassembly work on the objective turrets was continued. System labortory tests were continued.

EYEPIECE

Subassembly work was continued on the eyepiece optical system. Additional design investigation was continued on the feasability of an articulated eyepiece joint. The problems with the present geometry of the eyelens optics making little space available for articulated mirror levers or gearing.

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SUPERSTRUCTURE EYEPIECE SUPPORT

Layouts and assembly drawings are complete pending articulated joint requirements.

BASE FRAME

Initial inspection results were excellent. In-house painting of this frame is planned to expedite the assembly schedule.

CARRIAGES

X and Y carriages are ready for assembly except for painting of X carriages.

LEAD SCREWS

Lead screws are scheduled for May delivery.

DRIVE MOTORS

New drive motors with greater torque have been ordered because of minimum backlash loading requirements. Delivery is anticipated for mid June.

LIGHT TABLE

Castings Light Box Frame

Machining was completed. Castings were prepared for final finish.

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Film Loop Former

Subassemblies ready for final assembly.

Vacuum Manifolds

Layout design were continued. Vacuum plates are being evaluated.

Vacuum Platen Glass

Sample platens were checked and found to have excellent optical characteristics. Functional checks indicate a variable film pull down or flattening time range between 10 and 40 seconds. Efforts are being devoted towards reducing this time and minimizing microgroove visibility.

General Illumination

Lamp banks and controls were inspected and found to provide only a 7:1 brightness control range and lower brightness than required. These are being modified and adjusted for maximum range of flicker-free illumination control.

HIGH INTENSITY LIGHT SOURCE

The design is being finalized and experimental parts were readied for functional checkout. Severe mechanical clearance limitations have hampered complete solution with high intensity light source. Low power range requires a field lens abore or below film plane for desirable light distribution but causes increase in minimum center distance of optics or electrical limit circuit complexity. Detailed study is under way to seek a solution here.

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MAIN CONSOLE

The main viewer console closure has been designed, purchased and is being prepared for final machining. Writing top has been designed and purchased, and control panel layout studies were continued.

JOY STICK

Casting and parts were manufactured. Layouts were continued and will be ready for final detailing of panograph linkages coupling the two joystick mechanisms. Joy stick axes will be manually driven in rotation.

ELECTRICAL SCHEMATICS - WIRE DRAWINGS

These are 50% completed. Long lead electrical components have been purchased. Pre-wiring and cabling layouts were started.

ELECTRONIC CONTROL CONSOLES

Initial layouts were started.

Work to be Completed During Next Reporting Period

1. Continue design and detail work.
2. Continue check and test mechanical and electrical subassemblies as they are completed.
3. Continue alignment and tests.
4. Start work on additional subassemblies.
5. Continue to monitor all phases of program.